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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,719	10/27/2000	Hiroki Nakajima	20-4764P	4838

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EXAMINER

KRUSE, DAVID H

ART UNIT

PAPER NUMBER

1638

DATE MAILED: 01/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/697,719

Applicant(s)

NAKAJIMA ET AL.

Examiner

David H Kruse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-69 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Response filed 31 October 2002.
2. This Office action contains a new requirement for Election/Restriction, therefore the previous requirement mailed 1 October 2002 is withdrawn. The Office apologizes for any inconvenience to Applicant.
3. Applicant's remarks concerning misclassified claims 14 and 15 in the previous Office action are not found to be persuasive (page 2 of the Response). The specification on page 80 clearly states that SEQ ID NOs: 55 and 56 are directed to porphyrin binding peptides (Group III) and not to protoporphyrin IX binding peptide (Group II).

Election/Restrictions

4. Restriction to one of the following inventions is required under 35 U.S.C. § 121:
 - I. Claims 1-11, 20, 21, 28-36, 37, 43, 45, 47, 49 and 51, drawn to a method of producing an herbicide resistant plant comprising transforming a plant with a polynucleotide encoding a protoporphyrin IX binding subunit of a magnesium chelatase or a ferrochelatase, a plant produced therefrom and methods of using said plant, classified in class 800, subclass 300, for example.
 - II. Claims 1-7, 12, 13, 20, 21, 28-31, 37, 43, 45, 47, 49 and 51, drawn to a method of producing an herbicide resistant plant comprising transforming a plant with a polynucleotide encoding a protein comprising a protoporphyrin IX binding peptide, a plant produced therefrom and method of using said plant, classified in class 800, subclass 288, for example.

- III. Claims 1-7, 14-17, 28-31, 37, 43, 45, 47, 49 and 51, drawn to a method of producing an herbicide resistant plant comprising transforming a plant with a polynucleotide encoding a protein comprising a porphyrin binding peptide, a plant produced therefrom and methods of using said plant, classified in class 800, subclass 288, for example.
- IV. Claims 1-7, 18, 19, 28-31, 37, 43, 45, 47, 49 and 51, drawn to a method of producing an herbicide resistant plant comprising transforming a plant with a nucleotide encoding a protein comprising a protoporphyrinogen IX binding peptide, a plant produced therefrom and methods of using said plant, classified in class 800, subclass 288, for example.
- V. Claims 1-7, 20-31, 37, 43, 45, 47, 49 and 51, drawn to a method of producing an herbicide resistant plant comprising transforming a plant with a polynucleotide encoding a protoporphyrinogen IX oxidase protein lacking the ability to oxidize protoporphyrinogen IX, a plant produced therefrom and methods of using said plant, classified in class 800, subclass 278, for example.
- VI. Claims 38-42, 44, 46, 48 and 50, drawn to a method of producing an herbicide resistant plant comprising transforming a plant with a polynucleotide encoding a modified coproporphyrinogen III oxidase and a method of using the produced plant, classified in class 800, subclass 278, for example.

- VII. Claims 52, 53, 54, 57-61, 64 and 67, drawn to a method of giving resistance to weed control compounds to plants, a plant cell and a plant made by said method, and a method of using said plant to control weeds or to select a plant with a protoporphyrinogen IX oxidase inhibitory-type compound, said plant cell comprising a gene encoding a protein having a specific affinity for an herbicidal substance, having no capability of modifying said substance and being substantially free from framework regions of variable regions in an immunoglobulin in addition to an altered form of a protoporphyrinogen oxidase enzyme, classified in class 800, subclass 300, for example.
- VIII. Claims 52, 53, 55, 57-60, 62, 65 and 68, drawn to a method of giving resistance to weed control compounds to plants, a plant cell and a plant made by said method, and a method of using said plant to control weeds or to select a plant with a 5-enolpyruvylshikamate-3-phosphate synthase inhibitory-type compound, said plant cell comprising a gene encoding a protein having a specific affinity for an herbicidal substance, having no capability of modifying said substance and being substantially free from framework regions of variable regions in an immunoglobulin in addition to an altered form of a 5-enolpyruvylshikamate-3-phosphate enzyme, classified in class 800, subclass 300, for example.
- IX. Claims 52, 53, 56-60, 63, 66 and 69, drawn to a method of giving resistance to weed control compounds to plants, a plant cell and a plant

made by said method, and a method of using said plant to control weeds or to select a plant with a 5-enolpyruvylshikamate-3-phosphate synthase inhibitory-type compound, said plant cell comprising a gene encoding a protein having a specific affinity for an herbicidal substance, having no capability of modifying said substance and being substantially free from framework regions of variable regions in an immunoglobulin in addition to an altered form of a glyphosate oxidoreductase enzyme, classified in class 800, subclass 300, for example.

Claims 1-7, 20, 21, 28-31, 37, 43, 45, 47, 49 and 51 are generic to Groups I-VI and will be examined to the extent that said claims read on the elected invention.

Claims 52, 53 and 57-60 are generic to Groups VII-IX and will be examined to the extent that said claims read on the elected invention.

The inventions are distinct, each from the other because of the following reasons:

5. Inventions I-V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the method encompassed by each of Groups I-V have different starting materials and different end products, and have different modes of operation. Hence, each method of producing an herbicide resistant plant is patentably distinct from each of the other methods.
6. Inventions VI-IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of

operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the produced plant cell and plant of each Groups is compositionally, functionally and structurally distinct.

Hence, each method of producing an herbicide resistant plant is patentably distinct from each of the other methods.

7. Inventions I-V and VI-IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because none of the methods of Groups I-V can be used to make any of the plant cells of Groups VI-IX. In addition, none of the methods of Groups VI-IX can be used to make any of the plants of Groups I-V.

8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, recognized divergent subject matter, and because the search required for one of the groups is not required for another, restriction for examination purposes as indicated is proper.

9. Applicant is advised that the reply to this requirement to be complete within one month (not less than 30 days) must include an election of the invention to be examined even though the requirement be traversed (37 CFR § 1.143).

10. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR § 1.48(b) if

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one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR § 1.48(b) and by the fee required under 37 CFR § 1.17(i).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (703) 306-4539. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Amy Nelson can be reached at (703) 306-3218. The fax telephone number for this Group is (703) 872-9306 Before Final or (703) 872-9307 After Final.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Kim Davis whose telephone number is (703) 305-3015.

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180/1638



David H. Kruse, Ph.D.

10 January 2003